R E P O R T R E S U M E S

ED 016 242 CG 001 185

THE NATURE OF SCHOOL ANXIETY AND ITS RELATIONSHIP TO CHILDREN'S SCHOOL BEHAVIOR.

BY- PHILLIPS, BEEMAN N.

PUB DATE SEP 67

EDRS PRICE MF-$0.25 HC-$1.08 25P.

DESCRIPTORS- *ANXIETY, *PSYCHOLOGICAL PATTERNS, *PSYCHOEDUCATIONAL PROCESSES, *BEHAVIOR RATING SCALES, STUDENT ADJUSTMENT, BEHAVIOR PATTERNS, FACTOR ANALYSIS, FACTOR STRUCTURE, SOCIOCULTURAL PATTERNS, GRADE 4, QUESTIONNAIRES, MOTIVATION, PEER ACCEPTANCE, ACHIEVEMENT, CHILDREN'S SCHOOL QUESTIONNAIRE, METROPOLITAN ACHIEVEMENT TESTS, CALIFORNIA TEST OF MENTAL MATURITY

SEVERAL YEARS AGO, A PROJECT WAS INITIATED TO--DEVELOP A SCHOOL ANXIETY SCALE AND TO DETERMINE THE EXTENT TO WHICH SCHOOL ANXIETY IS A FUNCTION OF SCHOOL EXPERIENCE, SCHOOL BEHAVIOR IS A FUNCTION OF SCHOOL ANXIETY, AND HOW THESE RELATIONSHIPS APPLY TO CHILDREN OF DIFFERENT SOCIOCULTURAL BACKGROUNDS. UPPER, MIDDLE, AND LOWER CLASS FOURTH-GRADERS SERVED AS SUBJECTS. THE CHILDREN, THEIR TEACHERS, STANDARDIZED TESTS, AND CUMULATIVE RECORDS PROVIDED THE DATA. THE CHILDREN'S SCHOOL QUESTIONNAIRE (CSQ), CONSISTING OF 198 ORALLY-ADMINISTERED ITEMS WAS DEVELOPED AND ADMINISTERED. FACTOR ANALYSIS YIELDED A SCHOOL ANXIETY FACTOR WITH HIGH STABILITY ACROSS THE SCHOOL YEAR AND AN APPROACH AVOIDANCE COPING STYLE FACTOR WITH SOMEWHAT LOWER STABILITY. REPRESENTATIVE ITEMS FROM FOUR SCALES ON THE CSQ AND EIGHT PROBLEM BEHAVIOR VARIABLES ARE PRESENTED. DEGREE OF ANXIETY AND COPING STYLE LEAD TO LARGE DIFFERENCES IN THE INCIDENCE OF SCHOOL PROBLEM BEHAVIORS. DIFFERENCES IN ANXIETY LEAD TO SYSTEMATIC DIFFERENCES IN SCHOOL ACHIEVEMENT AND APTITUDE. TASKS FOR THE FUTURE ARE--(1) ASCERTAINING THE DIFFERENT EFFECTS OF DEFENSIVENESS AND ANXIETY IN EVALUATIVE AND PERMISSIVE SCHOOL CONDITIONS, AND (2) CLARIFICATION ABOUT WHETHER FACTORS WHICH DEPRESS CERTAIN BEHAVIORS AT THE BEGINNING OF THE SCHOOL YEAR FACILITATE AN INCREASE IN SUCH BEHAVIOR. THIS PAPER WAS PRESENTED AT THE AMERICAN PSYCHOLOGICAL ASSOCIATION CONVENTION, WASHINGTON, D.C., SEPTEMBER 1967. (PR)

DOCUMENT FILMED FROM BEST AVAILABLE COPY

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

ED016242

The Nature of School Anxiety and Its Relationship to Children's School Behavior[1]

Beaman N. Phillips

The University of Texas at Austin

Introductory Remarks

Several years ago a project[2] was initiated which had several major purposes. One was to develop a school anxiety scale. Another was to determine the extent to which school anxiety is a function of school experience. A third was to determine the degree to which school behavior is a function of school anxiety. And finally, we were interested in the extent to which these foregoing relationships held for children with different socio-cultural backgrounds.

The subjects in the major portion of the project included some more than 500 fourth graders in eight elementary schools selected to represent the socio-culturally diverse groups in a city of 225,000. Approximately half of the sample was split between middle class Anglos and upper-lower class Anglos, and the remainder was split between lower class Negroes and Mexican-Americans. Data were gathered at the beginning and end of fourth grade, and again at the beginning and end of fifth grade, from the children themselves, from teachers, from standardized tests, and from cumulative records. In peripheral studies, some additional data were gathered from these children as sixth graders, and from other samples of children in the city.

Conception of School Anxiety

Originally, we conceived of school anxiety in two ways: as a function of a disposition to be anxious, and as a function of the anxiety evoking potential of

CG 001 185

school situations. This conception is summarized in Figure 1. We patterned our thinking partly after the work of the Yale group (Sarason, Davidson, Lighthall, Waite, & Ruebush, 1960), and justified the extrapolation from test anxiety to school anxiety on the grounds that other school situations share the characteristics of test situations, although perhaps not to the same degree.

Figure 1 about here

In developing the concept of test anxiety, the Yale group have emphasized the role of evaluation in test and test-like situations; and since most school situations are explicitly or implicitly evaluation-oriented, essentially the same theoretical framework can be applied to the concept of school anxiety. Also, granting that school situations have many common characteristics, learning theory suggests that an original anxiety response in a school situation is likely to be extended or generalized to other school situations through similarity of associated cues, and through stimulus generalization. Thus, utilizing the terminological distinctions of Levitt (1967) and Spielberger (1966) in their recent books on anxiety, our definition of school anxiety appears to lie somewhere between the usual definitions of situational and trait anxiety.

At the same time, considering the implications of studies which indicate that response styles account for a significant proportion of the variance in personality questionnaires, we conceptualized the major response styles as aspects of defensiveness, and considered it conceptually logical to think of defensiveness as leading to, or as being manifested in, two styles of coping as indicated in Figure 2.

Figure 2 about here

Also, it may be argued that anxiety and defensiveness differ in significant ways, and that the effects of anxiety and defensiveness in school depend on the nature of the situation. Specifically, it is likely that children have developed characteristic responses to anxiety evoked by school situations, and that these reactions generally are unadaptive rather than adaptive in school situations. Furthermore, it is likely that children differing in anxiety will exhibit greater differences in unadaptive behaviors in evaluative, academic, and structured school situations than in permissive, social, and unstructured school situations. However, it is likely that children differing in defensiveness will exhibit greater differences in adaptive and unadaptive behaviors in permissive, social, and unstructured school situations than in evaluative, academic, and structured school situations. And it is anticipated that defensive children with an approach style of coping will generally exhibit adaptive behaviors, while defensive children with an avoidance style of coping will generally exhibit unadaptive behaviors, in these social aspects of schooling.

Factor Analyses of the Children's School Questionnaire

The Children's School Questionnaire was developed to measure school anxiety and coping style, and it consists of 198 orally administered items randomly assigned to three forms which were administered about a week apart. Most of the items were taken from research instruments previously appearing in the literature, including items representing defensiveness, test, audience, recitation, and generalized anxiety, in addition to a number of items prepared by the project staff. CSQ item responses in the Fall, fourth grade, and the Fall, fifth grade, were factored using image analysis; and clearly replicated school anxiety and coping style factors were obtained. The school anxiety factor had 74 items, and the coping style factor had 37. "Factor scores" for these scales were obtained by assigning unit weights to the items and summing. Based on Horn's (1965) observations,

this simple method seemed preferable to more elaborate factor scoring techniques. These separate sets of items were subjected to subsequent factor analyses, but time would not permit a consideration of those results. The stability of school anxiety scores across the school year was high: for fourth grade it was .63 and for fifth grade is was .68. The stability of coping style scores was lower, being .37 for fourth grade and .48 for fifth grade.

Some Other Project Variables

As previously noted, a number of different kinds of information on children was obtained in the project. And in some instances, variables were derived from instruments developed in the project. These and other school behavioral variables need to be briefly described; and where variables stem from project-developed instruments, representative items are presented.

A. Representative items for school anxiety, approach coping style, avoidance coping style, sex-linked interests and attitudes, and self disparagement in relation to peers, which were derived through factor analyses of the Children's School Questionnaire, are:

School anxiety scale (SA)

Factor 1 (negative valuation by others)

Do your classmates sometimes make fun of the way you look and talk?
When you recite in class do you often wonder what others are thinking of you?
Are you frequently afraid you may make a fool of yourself?

Factor 2 (taking tests)

After you have taken a test do you worry about how well you did on the test?
Do you worry a lot while you are taking a test?
Do you worry about being promoted, that is, passing from the -- grade to the -- grade at the end of the year?

Factor 3 (lack of confidence in meeting expectations of others)

Do you have a hard time keeping up with the other students in class?
In your school work, do you often forget; or do you feel sure you can remember things?
Is it hard for you to have as good a report card as your parents expect you to have?

Factor 4 (physiological reactivity)

Do you sometimes shake all over when you are asked to recite in class?
Do your knees shake when you are asked to recite in class?
Do you sometimes have a fear of fainting in class?

Sex-linked interests and attitudes scale (S)

Are you as good in games like kickball as other students in class?
Would you rather listen to music; or ride a bicycle?
If two children were fighting on the playground, would you go tell the teacher; or let them fight?
Would you rather read a book; or play ball?

Self disparagement in relation to peers (SD)

Can others do things better; or can you do most things well?
Do people think you make many mistakes; or few mistakes?
Do your classmates make fun of you for the way you play in school games?
Do you generally do what your friends like to do even though you sometimes want to do something else?

Coping style scale (CS)

Approach coping style (PCS)

To get others to like you do you try to find nice things to say about them?
When you have done well on something, do you feel pleased with yourself even when no one else in the class notices what you have done?
Do you always raise your hand in class when you know the answer?
When you are working in a group, do you usually volunteer for more work than anyone else in the group?
Do you always think that mother's way of doing things is better; or do you sometimes think your own way is better?
When the teacher gives an assignment, do you get busy on it right away?

Avoidance coping style (VCS)

Do you ever worry?
Are you ever unhappy?
Has anyone ever been able to scare you?
When you make something in class, do you try to make sure that all the other children see it?
Do you wish that your teacher paid more attention to you?
Do you get angry when you are working on something important in class and someone interrupts you?

B. Representative items for the eight problem behavior variables are:

Variable	Items or Sketches
Aggression, with independence strivings (AI)	(3) Cruelty, Bullying; (11) Importinence, Defiance; (22) Resentfulness; (44) Fights with little provocation; (62) Stubbornly resists the will and authority of the teacher

Variable (cont.)	Items or Sketches (cont.)
Active withdrawal (AW)	(13) Inattention; (16) Lack of interest in work; (17) Laziness; (43) Uses real or imagined inferiorities as an excuse for not really trying; (72) Uses laziness as a means of attracting attention
Emotional disturbance with depression (ED)	(10) Fearfulness; (25) Sensitiveness; (37) Unhappy, depressed; (39) Unsocial, withdrawing; (70) Is sad and apathetic
Self enhancement through derogation of others (SE)	(19) Overcritical of others; (33) Tattling; (41) Clings to teacher and seeks to be near her and hold her hand; (45) Exhibits righteousness, snobbishness
Diffuse hyperactivity (DH)	(7) Disorderliness in class; (22) Restlessness; (52) Is a compulsive talker; (65) Attracts attention by being a nuisance; (66) Exhibits constant movement of fingers or hands, persistent perspiring of parts of the body
Feelings of inferiority (FI)	(2) This child is sensitive to criticism. He is unable to react constructively to criticism; and he devotes much effort to prove his solutions to problems are the correct ones. (6) This child over-responds to flattery. He is easily led by those who praise him; and because he feels a great need to prove his adequacy, anyone who supports it gets a warm reception.
Neurotic symptoms associated primarily with academic tasks (NA)	(8) This child has a spotty performance record, in that while achievement in most areas is average or better, achievement in one or more specific areas is unaccountably low. It almost seems that he "blanks out," or has a mental block for some things. (15) This child has unrealistically high expectations for himself, more than could be expected from past performance or scores on aptitude tests. He responds to test scores and report card grades with remarks similar to "I can do better."
Neurotic symptoms associated primarily with social relations (NS)	(17) This child generally does not get along very well with children his own age or in his own class. He usually plays with children who are younger and in lower grades, and the games he plays are those appropriate for younger children. (23) This child gives the impression of always having his guard up, so that it's difficult to know how he feels and what he's thinking. He is unlikely to share secrets with anyone, especially an adult. He rarely expresses either pleasure or displeasure about what happens to him.

For the first five variables listed, a pool of 72 overt, discrete school problem behaviors were originally collected - 40 from the series of studies initiated by the classic research of Wickman, and the remaining 32 from the literature on children's school learning and behavior difficulties. Teachers' nominations of children for these 72 characteristics on all four testing occasions were combined [illegible] analysis of these results produced the five problem behavior vari-

and a factor analysis of these results produced the five problem behavior variables listed. (Parenthetically, this classification system for discrete pupil behaviors utilizes the teachers' own underlying observational categories; it does not necessarily provide the most psychologically interpretable and useful classification system, and Cotts will discuss an alternative procedure for classifying these discrete pupil behaviors in his paper.) The sketches on which the remaining three problem behavior variables are based were derived from psychoanalytically-oriented studies of children's school learning and behavior difficulties by Blanchard (1946), Klein (1949), and Pierson (1952).

C. The basis for the school motivation variable, which was defined as desire and effort toward, as well as pleasure in, doing well in school academically and socially, was forced-distribution ratings by teachers of children on eight behavioral characteristics. These characteristics rated are: shows evidence of strong pleasure in good work; enjoys working with others and participating actively in groups; concerned with lessons and careful about work; eager, energetic, and frequently volunteers; frequently helpful and sympathetic to others with problems; tries hard to make friends and to be accepted; seeks social recognition and likes offices and leadership roles; strikingly attentive to tasks.

D. Peer acceptance and peer rejection were based on a typical sociometric instrument with one exception, that being that only same-sex choices were allowed. (It should be noted, also, that peer acceptance and rejection are considered as separate psychological "dimensions," a decision supported both conceptually and empirically in this project.)

E. The Metropolitan Achievement Test and the California Test of Mental Maturity also were administered on the four occasions, and in addition, teacher grades in academic subjects were obtained during both school years.

Stability coefficients across each school year were computed for all these variables, and internal consistency estimates were obtained for most, and these results generally were satisfactory.

Correlates of School Anxiety

The validity and generality of our school anxiety scale has been investigated in several studies peripheral to the project's main purposes. At the end of the first year of a four year previously unreported study of non-graded versus graded patterns of organizing children for instructional purposes in a homogeneous, upper middle class school, it was found that non-graded children had decreased in school anxiety, while graded children had not (Otto & Phillips, in progress). In a study of early school experience using information from the cumulative record, we found that school anxiety in fourth grade can be predicted as early as first grade, sometimes with surprising accuracy (Phillips, 1967). In a study of over- and under-achievement, using Thorndike's suggestion for computing a measure of over- and under-achievement in which the effects of intelligence are partialled out, it was found that school anxiety was related to under-achievement (Adams & Phillips, 1967). In a study of the degree of socialization into middle class culture, based on the semantic differential, small negative correlations between degree of socialization and school anxiety were obtained (McNeil & Phillips, 1967). In a study of birth order, there was no difference in school anxiety between first-born and later-born children, but as predicted from Schachter's theory, there was a tendency for high-anxious first-born to pick popular peers more often and to reject disliked peers more often than high-anxious later-born (Adams & Phillips, 1967). Finally, in a study based on developmental theory, it was found that masculinity-femininity was significantly related to the school anxiety of boys, but not girls (Gotts & Phillips, 1967).

Multivariate Analysis of School Anxiety and Coping Style in Relation to School Behavior

As Lovitt (1967) has pointed out, multivariate theories of anxiety do not exist, and the results of multifactor studies sometimes are confusing and ambiguous.

Yet, it is a psychological truism that human behavior is determined by complex constellations of factors, and the further development of anxiety theory requires multivariate investigations. We generally proceeded from this premise in our research on school anxiety, and in the multivariate analyses to be discussed next, a fixed-model analysis of variance was employed with Anglo versus Non-Anglo, high anxiety versus low anxiety, high motivation versus low motivation, and approach coping style versus avoidance coping style as the fixed effects, and with the other variables being considered as the dependent variables. High anxiety, high motivation, and approach coping style included the subjects with scores above the median on three of the four testing occasions; and low anxiety, low motivation, and avoidance coping style included subjects with scores below the median on three of the four test occasions.[3]

As to the results for the main effects, high and low anxiety consistently differentiates between adaptive and unadaptive behavior in school. High-anxious children generally engage in more problem behavior, are disliked more by peers, see themselves in more disparaging ways, and are lower in school achievement and aptitude. Not surprisingly, approach and avoidance coping style also consistently distinguishes between adaptive and unadaptive behavior. In fact, coping style actually is more discriminating than school anxiety with respect to problem behaviors. However, there are few differences between approach and avoidance coping style in school achievement and aptitude where differences for school anxiety are highly significant.

As to the maineffects of high and low motivation, we expected these to be consistently significant, partly because there is a lack of independence between school motivation and some of the other variables, although this effect is diluted somewhat since two different teachers' observations are averaged. Also, Non-Anglos generally have slightly higher problem behavior means with the exception of emotional disturbance with depression where Anglos have the higher mean; and, of

course, Non-Anglos have lower school achievement and aptitude means, as expected. It should be added that it is likely that the procedures for obtaining teachers' nominations for the problem behavior variables reduced somewhat the Anglo-Non-Anglo differences on these means.

Taken together, therefore, these results for the main effects indicate that school anxiety and school motivation define characteristic reactions to both the social and the academic demands of schooling, while coping style primarily defines characteristic reactions to only the social demands of schooling.

As to the interactive effects of these variables, since high motivation produces adaptive reactions to school situations, when the joint effects of school motivation and school anxiety, and school motivation and coping style, are considered, the circumstances are indicative of conflict which may be conceptualized in terms of approach and avoidance tendencies (Miller, 1959). And summarizing the joint effects of school anxiety and school motivation as well as the joint effects of coping style and school motivation, the presence of conflict appears to be more deleterious to Non-Anglos than Anglos. That is, high anxiety combined with high motivation, and avoidance coping style combined with high motivation, appear to increase, relatively speaking, the problem behavior means, and to decrease, relatively speaking, the school achievement and aptitude means. These deleterious consequences possibly occur (especially for Non-Anglo children) because the adaptive tendencies associated with high motivation (in the absence of high anxiety or avoidance coping style) are debilitated by the presence of high anxiety or avoidance coping style. But, possibly they occur because the unadaptive tendencies associated with high anxiety and avoidance coping style are facilitated by the presence of high motivation. Also, it is possible that high motivation differs in such a way among Anglos and Non-Anglos that the highly motivated Non-Anglo is more vulnerable to both of these potential effects of conflict. For example, fear of failure, ambivalence toward success, and compensatory tendencies may be more a part of the high motivation of Non-Anglos than Anglos.

Multivariate Analysis of School Anxiety and Coping Style in Relation to Changes in School Behavior During the School Year

Earlier, school anxiety as a source of differences in school behavior was considered in the context of learning theory and the Sarason position regarding the effects of anxiety on learning, and the results reported appear to be in general agreement with expectations based on those theories. However, the data analyzed represented averages over the period of two school years, not changes in school behavior; so the results, therefore, are only indirectly or circumstantially relevant. In the multivariate analyses to be discussed next, changes in school behavior from the beginning to the end of the school year were examined, using a repeated measures analysis of variance design.[3] Summarizing the results, the following generalizations may be noted:

A. School problem behavior tends to increase more for high-anxious than low-anxious subjects, primarily among Anglos, since there is a tendency for low-anxious Non-Anglo subjects to increase in problem behavior more than high-anxious Non-Anglos.

B. School achievement and aptitude behavior tends to increase more for low-anxious subjects than for high-anxious subjects, especially among Anglos.

C. School problem behavior tends to increase with high motivation more than it does with low motivation, especially for Non-Anglos.

D. School achievement and aptitude behavior tends to increase more for low motivation than for high motivation, especially for Anglos.

E. School problem behavior increases more for subjects with avoidance coping style than for subjects with approach coping style, especially for Non-Anglos.

F. School achievement and aptitude behavior tends to increase more for subjects with approach coping style than for subjects with avoidance coping style, especially for Anglos.

G. Finally, comparatively speaking, school anxiety is involved in more interactions relating to change in school behavior than in interactions relating to overall status in school behavior.

A methodological problem highlighted in these analyses is that increases in school behavior during the school year may be due either to factors which depress these school behaviors at the beginning of the school year, or to factors which elevate these school behaviors at the end of the school year. The problem, therefore, is how to distinguish the two types of factors so that factors which depress school behavior at the beginning of the school year are not interpreted as factors which facilitate increases in these school behaviors during the school year.

A substantive point highlighted in these analyses is that there are both similarities and differences in the school behavioral correlates of school anxiety and coping style, with the particulars being that, while differences in coping style lead to greater differences in the incidence of school problem behaviors, only differences in anxiety lead to systematic differences in school achievement and aptitude behaviors. Therefore, it appears to us that defensiveness and anxiety have somewhat different effects in evaluative (academic) and permissive (social) school conditions. While the results help to illuminate this hypothesis, checking it is a task for the future.

References

1. Adams, R. L., & Phillips, B. N. Factors associated with under- and over-achievement among socio-economically and racial-ethnically different elementary school children. Psychology in the Schools, 1968, V (2), in press.
2. Adams, R. L., & Phillips, B. N. Motivational and achievement differences among children of various ordinal birth positions, 1967, unpublished manuscript.
3. Blanchard, P. Psychoanalytic contributions to the problem of reading disabilities. In Anna Freud et al. (Ed.), Psychoanalytic Study of the Child, 1946, 163-187.
4. Cotts, E. E., & Phillips, B. N. The relation between psychometric measures of anxiety and masculinity-femininity. Journal of School Psychology, 1968, in press.
5. Horn, J. L. An empirical comparison of methods for estimating factor scores. Educational and Psychological Measurement, 1965, 25, 313-322.
6. Klein, E. Psychoanalytic aspects of school problems. In Anna Freud, et al. (Ed.), Psychoanalytic Study of the Child, 1949, 369-390.
7. Lazarus, R. A laboratory approach to the dynamics of psychological stress. American Psychologist, 1964, 19, 400-411.
8. Levitt, E. E. The Psychology of Anxiety. Indianapolis: Bobbs-Merrill Co., Inc., 1967.
9. Miller, N. E. In Psychology: a study of a science, vol. II: general systematic formulations, learning, and special processes, S. Koch (Ed.), New York: McGraw-Hill Book Co., 1959, 196-292.
10. McNeil, K. A., & Phillips, B. N. Scholastic nature of responses to the environment in selected subcultures, 1967, unpublished manuscript.

11. Pearson, G. H. J. A survey of learning difficulties in children. In R. S. Eissler et al. (Ed.), The Psychoanalytic Study of the Child, 1952, 322-386.

12. Phillips, B. N. Anxiety as a function of early school experience. Psychology in the Schools, 1967, IV (4), 335-340.

13. Sarason, S. B., Davidson, K. S., Lighthall, F. F., Waite, R. R., & Ruebush, B. K. Anxiety in Elementary School Children. New York: John Wiley & Sons, 1960.

14. Spielberger, C. D. Anxiety and behavior. New York: Academic Press, 1966.

Footnotes

[1]Presented at American Psychological Association Symposium on "Anxiety and School Behavior," September, 1967.

[2]The project was supported from 1964-1966 by a grant from the USOE Cooperative Research Branch; and of the many graduate students who have been involved, it is necessary to single out Keith McNeil, Russell Adams, and Ed Gotts as professional collaborators.

[3]Supplementary tabular material has been deposited with the American Documentation Institute. Order Document No. _____ from ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington, D. C. 20540. Remit in advance $_____ for photocopies or $_____ for microfilm and make checks payable to: Chief, Photoduplication Service, Library of Congress.

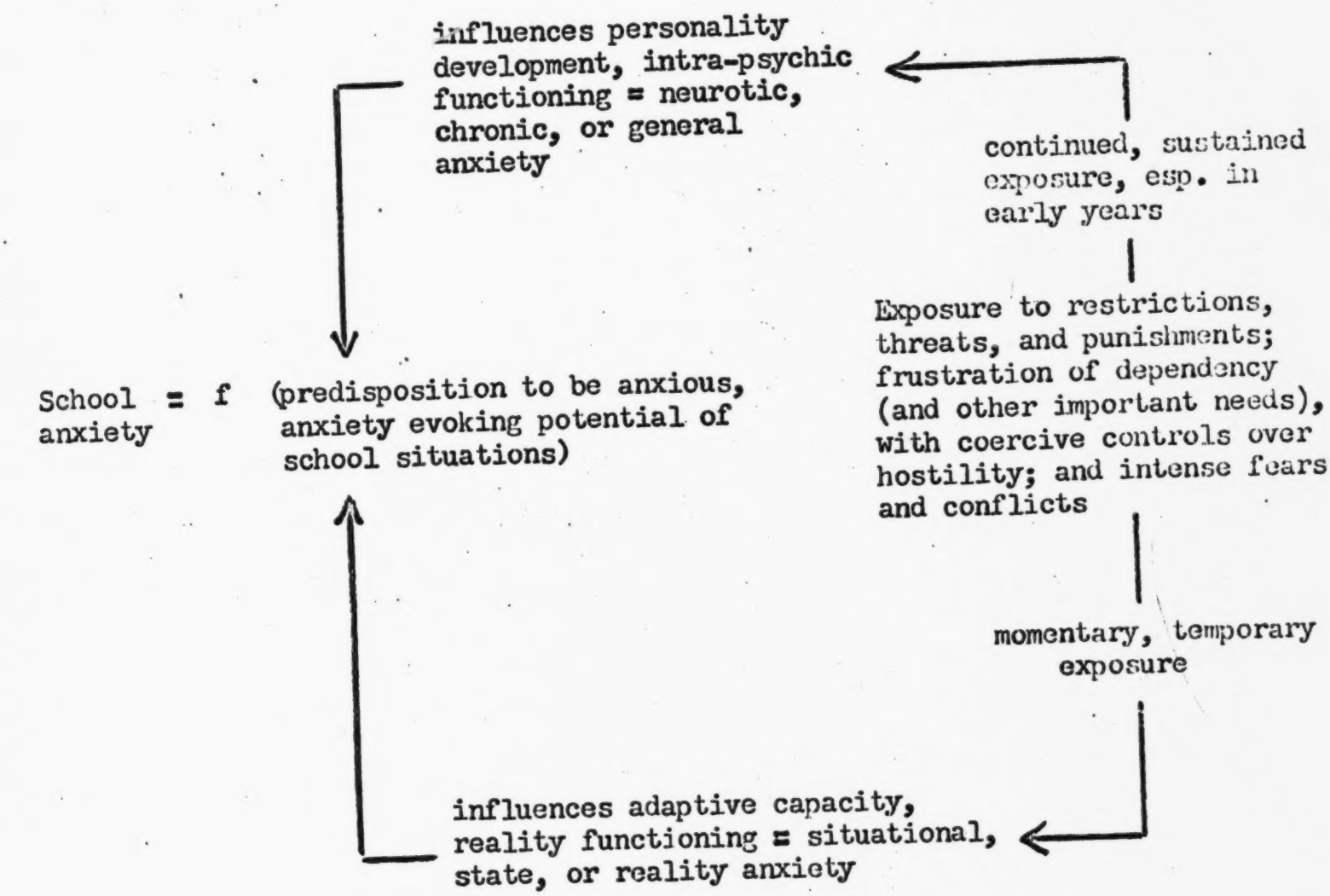
influences personality development, intra-psychic functioning = neurotic, chronic, or general anxiety
continued, sustained exposure, esp. in early years
Exposure to restrictions, threats, and punishments; frustration of dependency (and other important needs), with coercive controls over hostility; and intense fears and conflicts
momentary, temporary exposure
influences adaptive capacity, reality functioning = situational, state, or reality anxiety
School anxiety = f (predisposition to be anxious, anxiety evoking potential of school situations)

Figure 1. The nature of school anxiety schematically represented

Subject's personal characteristics, e.g. age, sex, socio-economic status, intelligence, disposition to be anxious, etc.

+

Subject's previous experiences, esp. with test and test-like situations

+

Present research situation, including type of information sought, procedures for obtaining it, characteristics of experimenter, etc.

→ Cognitive appraisal, i.e., beliefs and expectations about the present research situation

→ Produces threat, etc. in majority of subjects which leads to defensiveness manifested in two styles of coping, these being variously identified as avoider, denier, repressor, etc., and as approacher, sensitizer, intellectualizer, etc.

↓

Some of the effects of defensiveness include interference with cognitive processes leading to reduced comprehension of verbal material, response stereotypy, etc.; increased salience of self leading to heightened awareness of discrepancies between cognitions of self and ideal self; higher utilization of defense mechanisms such as denial, regression, etc.

← Acquiescent responding (tendency to agree) is a function of low comprehension of verbal material, response stereotypy, and regression (and dependence); affirmative social desirability responding (oversubscribing to socially valued characteristics few children have) is a function of self-ideal self conflict; negativistic responding (tendency to disagree) is a function of low comprehension of verbal material, response stereotypy, and regression (and dependence); disaffirmative social desirability responding (undersubscribing to socially devalued characteristics most children have) is a function of self-ideal self conflict

← Acquiescent and affirmative social desirability responding are aspects of the approach style of coping, and negativistic and disaffirmative social desirability responding are aspects of the avoidance style of coping

Figure 2. Response styles schematically represented as aspects of approach and avoidance styles of coping (Adapted from Lazarus, 1964)

Table 1

Summary of Analyses of Variance for 18 Variables Based on Objective Tests, Teacher and Peer Nominations, and Self Reports Over a Period of Two School Years

Variable	Sources of Variance where $p \leq .10$
Sex-linked interests and attitudes (S)	A (.070) D (<.001) BC (.048)
Self disparagement in relation to peers (SD)	B (<.001) C (.010) D (<.001)
Feelings of inferiority (FI)	D (.028) AC (.066) ABC (.035) ACD (.006)
Neurotic symptoms, academic (NA)	B (.094) C (.003) AC (.021) CD (.052)
Neurotic symptoms, social (NS)	C (.013) D (.013) AD (.059)
Aggression with independence strivings (AI)	B (.081) D (<.001) AC (.042) ACD (.052)
Active withdrawal (AW)	C (<.001)
Emotional disturbance with depression (ED)	A (.029) C (<.001) AC (.073)
Self enhancement through derogation of others (SE)	B (.028) C (<.001) D (.096)
Diffuse hyperactivity (DH)	D (.001)
Peer acceptance (PA)	C (<.001)
Peer rejection (PR)	B (.083) C (.002) ACD (.093)
Proneness toward neuroticism (PTN)	B (<.001) C (.074) D (.042) AD (.005) ACD (.079)
Grade point average (GPA)	A (<.001) B (<.001) C (<.001) D (.002) BD (.054) ACD (.003) ABCD (.088)
MAT non-verbal achievement	A (<.001) B (.002) C (<.001) BC (.098) CD (.085) ABD (.087)
MAT verbal achievement	A (<.001) B (.040) C (<.001) AC (.081)
CTMM non-verbal IQ	A (<.001) B (.005) C (<.001)
CTMM verbal IQ	A (<.001) B (.010) C (<.001) AD (.085)

NOTE: A = Anglo (A) vs. Non-Anglo (NA)
B = High anxiety (HA) vs. Low anxiety (LA)
C = High motivation (HM) vs. Low motivation (LM)
D = Approach coping style (HD) vs. Avoidance coping style (LD)

Table 2

Summary of Means for Probabilities Listed in Table 4

S

A	NA
8.18	7.52

HD	LD
7.14	8.56

	HM	LM
HA	7.20	8.22
LA	8.20	7.78

SD

HA	LA
4.99	3.80

HM	LM
4.13	4.66

HD	LD
3.85	4.94

FI

HD	LD
.37	.60

	HM	LM
A	.31	.64
NA	.53	.47

	A-HM	A-LM
HA	.20	.84
LA	.43	.44

	NA-HM	NA-LM
HA	.70	.53
LA	.36	.42

	A-HD	A-LD
HM	.34	.28
LM	.46	.82

	NA-HD	NA-LD
HM	.19	.88
LM	.51	.44

NA

HA	LA
.68	.50

HM	LM
.42	.75

	HM	LM
A	.24	.82
NA	.60	.68

	HD	LD
HM	.25	.59
LM	.79	.71

NS

HM	LM
.41	.67

HD	LD
.41	.67

	HD	LD
A	.47	.53
NA	.35	.81

AI

HA	LA
.56	.33

HD	LD
.18	.71

	HM	LM
A	.30	.54
NA	.62	.32

	A-HD	A-LD
HM	.20	.40
LM	.25	.82

	NA-HD	NA-LD
HM	.12	1.11
LM	.14	.50

AW

HM	LM
.32	1.05

ED

A	NA
.51	.29

HM	LM
.17	.64

	HM	LM
A	.19	.84
NA	.15	.44

SE

HA	LA
.30	.17

HM	LM
.34	.13

HD	LD
.19	.29

DH

HD	LD
.21	.49

PA

HM	LM
1.22	1.04

PR

HA	LA
.16	.11

HM	LM
.08	.19

	A-HD	A-LD
HM	.03	.08
LM	.12	.26

	NA-HD	NA-LD
HM	.06	.13
LM	.23	.16

PTN

HA	LA
10.83	8.40

HM	LM
9.34	9.89

HD	LD
9.31	9.92

	HD	LD
A	8.76	10.12
NA	9.86	9.72

	A-HD	A-LD
HM	8.70	9.53
LM	8.82	10.70

	NA-HD	NA-LD
HM	9.36	9.77
LM	10.37	9.67

GPA

A	NA
12.9	11.6

HA	LA
11.5	13.0

HM	LM
13.8	10.7

HD	LD
12.8	11.7

	HD	LD
HA	11.7	11.3
LA	13.8	12.2

	A-HD	A-LD
HM	14.5	14.3
LM	12.6	10.2

	NA-HD	NA-LD
HM	14.1	12.5
LM	9.9	10.0

Table 2 (cont.)

	A-HA-HD	A-HA-LD
HM	14.1	14.1
LM	11.2	9.4
	A-LA-HD	**A-LA-LD**
HM	14.8	14.5
LM	13.9	11.0
	NA-HA-HD	**NA-HA-LD**
HM	12.4	12.4
LM	9.1	9.2
	NA-LA-HD	**NA-LA-LD**
HM	15.8	12.6
LM	10.7	10.8

MAT NV

	A	NA
	4.6	4.0
	HA	LA
	4.1	4.5
	HM	LM
	4.6	4.0
	HM	LM
HA	4.3	3.9
LA	4.9	4.1
	HD	LD
HM	4.7	4.5
LM	4.0	4.1
	A-HD	A-LD
HA	4.6	4.4
LA	4.8	4.8
	NA-HD	NA-LD
HA	3.6	3.8
LA	4.3	4.1

MAT V

	A	NA
	5.3	3.8
	HA	LA
	4.4	4.8
	HM	LM
	5.2	4.0
	HM	LM
A	6.1	4.5
NA	4.2	3.4

CTMM NV

	A	NA
	109.7	92.7
	HA	LA
	98.3	104.0
	HM	LM
	107.1	95.3

CTMM V

	A	NA
	107.5	88.4
	HA	LA
	95.4	100.5
	HM	LM
	104.2	91.8
	HD	LD
A	109.5	105.5
NA	86.6	90.3

NOTE: A = Anglo (A) vs. Non-Anglo (NA)
B = High anxiety (HA) vs. Low anxiety (LA)
C = High motivation (HM) vs. Low motivation (LM)
D = Approach coping style (HD) vs. Avoidance coping style (LD)

Table 3

Summary of Repeated Measures Analyses of Variance for 18 Variables Based on Objective Tests, Teacher and Peer Nominations, and Self Reports at the Beginning and End of the School Year (Fourth and Fifth Grade Combined)

Variable	Sources of Variance where $p \leq .10$
Sex-linked interests and attitudes (S)	E (<.001) BCE (.084)
Self disparagement in relation to peers (SD)	E (<.001) BE (.060) DE (.109) ABE (.041) ACE (.104) ADE (.108) ABCDE (.032)
Feelings of inferiority (FI)	E (.101) CE (.057) ACE (.019) ADE (.007)
Neurotic symptoms, academic (NA)	E (.005) ACE (.077) BCE (.038) CDE (.05 BCDE (.038)
Neurotic symptoms, social (NS)	DE (.016) BDE (.098)
Aggression with independence strivings (AI)	CE (.064) BCDE (.102)
Active withdrawal (AW)	ABE (.021)
Emotional disturbance with depression (ED)	None
Self enhancement through derogation of others (SE)	None
Diffuse hyperactivity (DH)	None
Peer acceptance (PA)	E (.002) CE (.006) BCE (.065) BDE (.09
Peer rejection (PR)	E (.063)
Proneness toward neuroticism (PTN)	E (.012) CE (.106) ABE (.010)
Grade point average (GPA)	E (<.001) DE (.004) ABE (.050)
MAT non-verbal achievement	E (<.001) AE (.009) BE (.012) CE (.04 ACDE (.083)
MAT verbal achievement	E (<.001)
CTMM non-verbal IQ	E (<.001) BE (.081) ABCE (.092)
CTMM verbal IQ	E (<.001) AE (.009) ACE (.036)

NOTE: A = Anglo (A) vs. Non-Anglo (NA)
B = High anxiety (HA) vs. Low anxiety (LA)
C = High motivation (HM) vs. Low motivation (LM)
D = Approach coping style (HD) vs. Avoidance coping style (LD)
E = Beginning of school year (F) vs. End of school year (S)

Table 4

Summary of Means for Probabilities Listed in Table 6

S

	F	S
	7.39	8.31

	HA-F	HA-S
HM	6.43	7.97
LM	7.84	8.59

	LA-F	LA-S
HM	7.91	8.49
LM	7.36	8.19

SD

	F	S
	4.00	4.79

	F	S
HA	4.44	5.58
LA	3.55	4.06

	F	S
HD	3.57	4.12
LD	4.42	5.47

	A-F	A-S
HA	4.50	5.17
LA	3.38	4.10

	NA-F	NA-S
HA	4.38	5.89
LA	3.73	4.01

	A-F	A-S
HM	3.78	4.40
LM	4.10	4.88

	NA-F	NA-S
HM	3.52	4.84
LM	4.59	5.06

	A-F	A-S
HD	3.31	4.01
LD	4.57	5.26

	NA-F	NA-S
HD	3.84	4.23
LD	4.28	5.67

	A-HA-HM-F	A-HA-HM-S
HD	3.47	4.58
LD	4.60	5.20

	A-HA-LM-F	A-HA-LM-S
HD	4.50	4.78
LD	5.44	6.12

	A-LA-HM-F	A-LA-HM-S
HD	2.94	3.11
LD	4.10	4.70

	A-LA-LM-F	A-LA-LM-S
HD	2.33	3.56
LD	4.15	5.04

	NA-HA-HM-F	NA-HA-HM-S
HD	3.57	4.47
LD	4.00	7.14

	NA-HA-LM-F	NA-HA-LM-S
HD	4.80	5.68
LD	5.17	6.28

	NA-LA-HM-F	NA-LA-HM-S
HD	2.83	3.50
LD	3.67	4.27

	NA-LA-LM-F	NA-LA-LM-S
HD	4.14	3.29
LD	4.27	5.00

FI

F	S
.43	.54

	F	S
HM	.30	.54
LM	.56	.55

	A-F	A-S
HM	.25	.37
LM	.55	.73

	NA-F	NA-S
HM	.35	.71
LM	.58	.36

	A-F	A-S
HD	.27	.54
LD	.53	.57

	NA-F	NA-S
HD	.44	.26
LD	.50	.82

NA

F	S
.49	.68

	A-F	A-S
HM	.18	.30
LM	.70	.93

	NA-F	NA-S
HM	.41	.79
LM	.67	.70

	HA-F	HA-S
HM	.40	.76
LM	.79	.76

	LA-F	LA-S
HM	.20	.34
LM	.58	.87

	HM-F	HM-S
HD	.14	.36
LD	.45	.73

	LM-F	LM-S
HD	.62	.96
LD	.75	.67

	HA-HM-F	HA-HM-S
HD	.25	.47
LD	.54	1.05

	HA-LM-F	HA-LM-S
HD	.68	1.03
LD	.90	.49

	LA-HM-F	LA-HM-S
HD	.04	.25
LD	.35	.42

	LA-LM-F	LA-LM-S
HD	.55	.89
LD	.60	.84

NS

	F	S
HD	.30	.51
LD	.75	.60

	HA-F	HA-S
HD	.34	.57
LD	.84	.44

	LA-F	LA-S
HD	.26	.45
LD	.66	.75

AI

	F	S
HM	.38	.53
LM	.47	.39

	HA-HM-F	HA-HM-S
HD	.14	.11
LD	.73	1.12

	HA-LM-F	HA-LM-S
HD	.34	.32
LD	1.02	.66

	LA-HM-F	LA-HM-S
HD	.12	.27
LD	.54	.62

	LA-LM-F	LA-LM-S
HD	.03	.09
LD	.48	.49

AW

	A-F	A-S
HA	.61	.81
LA	.62	.58

	NA-F	NA-S
HA	.84	.70
LA	.51	.79

PA

F	S
.10	.15

	F	S
HM	.17	.26
LM	.03	.05

	HA-F	HA-S
HM	.19	.24
LM	.03	.06

	LA-F	LA-S
HM	.15	.28
LM	.04	.04

	HA-F	HA-S
HD	.14	.15
LD	.08	.14

	LA-F	LA-S
HD	.10	.20
LD	.08	.12

Table 4 (cont.)

PR

F	S
.12	.15

PTN

F	S
9.82	9.41

	F	S
HM	9.41	8.81
LM	9.98	9.54

	A-F	A-S
HA	10.70	10.68
LA	8.69	7.68

	NA-F	NA-S
HA	11.29	10.64
LA	8.59	8.64

GPA

F	S
11.9	12.6

	F	S
HD	12.2	13.3
LD	11.5	12.0

	A-F	A-S
HA	12.0	12.5
LA	13.1	14.1

	NA-F	NA-S
HA	10.3	11.3
LA	12.2	12.8

MAT NV

F	S
3.8	4.8

	F	S
A	4.1	5.2
NA	3.6	4.3

	F	S
HA	3.7	4.5
LA	4.0	5.0

	F	S
HM	4.1	5.1
LM	3.6	4.4

	A-HM-F	A-HM-S
HD	4.5	5.7
LD	4.4	5.5

	A-LM-F	A-LM-S
HD	3.8	4.8
LD	3.8	4.7

	NA-HM-F	NA-HM-S
HD	3.8	4.8
LD	3.6	4.5

	NA-LM-F	NA-LM-S
HD	3.4	3.8
LD	3.5	4.3

MAT V

F	S
4.2	5.0

CTMM NV

F	S
97.9	104.5

	F	S
HA	95.6	101.0
LA	100.2	107.9

	A-HA-F	A-HA-S
HM	110.4	113.5
LM	101.3	108.0

	A-LA-F	A-LA-S
HM	113.3	121.2
LM	101.3	108.2

	NA-HA-F	NA-HA-S
HM	91.6	98.9
LM	79.1	83.6

	NA-LA-F	NA-LA-S
HM	100.2	107.3
LM	85.8	94.9

CTMM V

F	S
96.2	99.8

	F	S
A	105.1	110.0
NA	87.3	89.6

	A-F	A-S
HM	111.3	115.5
LM	98.8	104.5

	NA-F	NA-S
HM	93.0	96.9
LM	81.6	82.2

NOTE: A = Anglo (A) vs. Non-Anglo (NA)
B = High anxiety (HA) vs. Low anxiety (LA)
C = High motivation (HM) vs. Low motivation (LM)
D = Approach coping style (HD) vs. Avoidance coping style (LD)
E = Beginning of school year (F) vs. End of school year (S)